

Amendments to the Claims

1 - 8 (Cancelled)

9. (New) A method of transmitting data over a radio channel between two radio interfaces that support a plurality of physical transmission modes at different bandwidths, the method comprising:

establishing a plurality of groups of virtual channels on the radio channel, each group having an allocated bandwidth, such that the sum of the allocated bandwidths does not exceed a total bandwidth of the radio channel operating in a basic transmission mode;

detecting a transmission quality of the radio channel; and

based on the detected transmission quality, operating the radio channel in a selected

transmission mode having a greater bandwidth than that of the basic transmission mode; and

allocating the difference in the bandwidths between the selected transmission mode and the basic transmission mode to the groups of virtual channels such that one or more of the groups of virtual channels operate at a bandwidth that is greater than their allocated bandwidth.

10. (New) The method of claim 9 wherein the transmission mode selected is the one having the greatest bandwidth that is compatible with the detected transmission quality of the radio channel.

11. (New) The method of claim 10 wherein if the bandwidth of the transmission mode having the greatest bandwidth is greater than or equal to a total bandwidth need of the groups of virtual channels, the most robust transmission mode having a bandwidth sufficient to satisfy the bandwidth needs of the groups of virtual channels is selected.

12. (New) The method of claim 11 further comprising altering the transmission power of the radio channel to satisfy small changes in the bandwidth needs of the groups of virtual channels.

13. (New) The method of claim 11 further comprising buffering at least part of the data to be transmitted over a group of virtual channels, and determining that a bandwidth of a currently used transmission mode is less than the total bandwidth needs of the groups of virtual channels if the data in the buffer exceeds a predetermined limit.

14. (New) The method of claim 13 wherein the buffered data comprises data that is to be transmitted over at least one virtual channel at an unspecified bit rate.

15. (New) The method of claim 9 further comprising admitting a new terminal-to-terminal connection in a group of virtual channels based on a call admission control (CAC) method.

16. (New) A data transmission network comprising:

a first group of nodes having a first radio interface configured to support a plurality of physical transmission modes;

a second group of nodes having a second radio interface configured to support the plurality of physical transmission modes;

a radio channel comprising two or more groups of virtual channels interconnecting the first and second radio interfaces, each group being allocated a bandwidth to transmit data between the first and second groups of nodes such that the sum of the allocated bandwidths is less than or equal to a total bandwidth of the radio channel when the radio channel is operating in a basic transmission mode; and

a control unit configured to:

detect a transmission quality of the radio channel;

operate the radio channel in a selected transmission mode having a greater bandwidth than that of the basic transmission mode based on the detected transmission quality; and

allocate the difference in the bandwidths between the selected transmission mode and the basic transmission mode to the groups of virtual channels such that one or more of the groups of virtual channels operate at a bandwidth that is greater than their allocated bandwidth.